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09/964,693	09/28/2001	Kenji Watanabe	Q66444	2941

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EXAMINER

KRUER, KEVIN R

ART UNIT PAPER NUMBER

1773

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/964,693

Applicant(s)

WATANABE ET AL.

Examiner

Kevin R Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,2,4 and 16-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: JP2000-80230, JP2000-264976 and translations thereof.

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 16-18, 19 (16-18), 20(16-18), 21-(16-18), 22 (16-18), 22, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claims 16-18 and the claims that depend therefrom, the original disclosure supports embodiments comprising an intermediate layer that has a thickness of less than 200um and comprising a vinyl chloride resin having a chlorination degree of less than 58% and a composition different from that of the base layer (embodiment 9). However, there is no support in the disclosure for such embodiments wherein said intermediate layer "does not contain titanium oxide." Applicant argues that the amendment finds support in example 9 of the specification. However, example 9 is silent to the titanium oxide content of the intermediate layer. The courts have held that the mere absence of a positive recitation is not basis for an exclusion see MPEP 2173.05(i).

With respect to claim 22, the original disclosure does not contain support for intermediate layers of claims 1, 2, and 4 wherein the thickness of the intermediate layer is 25-150um. The original disclosure states that embodiment 9 of the specification may comprise an intermediate layer which has the claimed thickness (see page 49, lines 21+). However, the original disclosure does not support for embodiments wherein the intermediate layer comprises other compositions. To the contrary, the original disclosure actually teaches that intermediate layers with compositions other than the composition of embodiment 9 should have a thickness of 30-500um.

With respect to claim 26, the original disclosure does not contain support for antistatic layers with the claimed thickness. Specifically, the original disclosure contains support for antistatic layers having a thickness of 0.3-1.5um when the conductive material is tin oxide or conductive titanium oxide, or from 0.1-1.0um in the case of long carbon fibers (page 40, lines 1+). However, there is no support for antistatic layers comprising tin oxide or titanium oxide with a thickness of 0.1-0.3, or antistatic layers comprising carbon fibers with a thickness of 1.0-1.5um.

Furthermore, there is support for laminates comprising a base layer and an antistatic layer having a light transmittance of 40% or more, a haze value of 60% or less when the total thickness of 3mm (page 40, last paragraph). However, there is no support for laminates comprising an intermediate layer wherein the laminate has a light transmittance of 40% or more, a haze value of 60% or less when the total thickness of 3mm.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 19(1), 20 (1), and 21(1) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000-090230A (herein referred to as Watanabe '230) in view of Yoshizumi (US 4,431,764). Watanabe'230 teaches a flame retardant molded object formed from a composition comprising 100pbw vinyl chloride resin having a chlorination degree of 58-73% and 4-30pbw titanium dioxide. Said layer is understood to read on the claimed "intermediate layer." On at least one side of the molded object, a surface layer may be applied. The surface layer (herein relied upon to read on the claimed "base layer") comprises 0-20 titanium dioxide (abstract), a chlorination degree of 50-57% (paragraph 0017 of translation), and a thickness of 200um or more (paragraph 0046). The composition can be used in equipment in which semiconductor parts are made (paragraph 003).

Watanabe'230 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) which is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'230 in order to provide the substrate with antistatic properties.

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With respect to claim 19 (1), Yoshizumi teaches that the binder of the anti-static layer may comprise vinyl chloride, but does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'230 teaches that the chlorination degree of a polymer will affect is fire resistance, thermal stability, and moldability (paragraph 0015). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the laminate's moldability, thermal stability, and fire resistance.

5. Claims 1 and 21(1) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000-080230A (herein referred to as Watanabe '230) in view of Holley (US 5,508,343). Watanabe'230 teaches a flame retardant molded object formed from a composition comprising 100pbw vinyl chloride resin having a chlorination degree of 58-73% and 4-30pbw titanium dioxide. Said layer is relied upon to read on the claimed "intermediate layer." On at least one side of the molded object, a surface layer may be applied. The surface layer (herein relied upon to read on the claimed "base layer") comprises 0-20 titanium dioxide (abstract), a chlorination degree of 50-57% (paragraph 0017 of translation), and a thickness of 200um or more (paragraph 0046). The composition can be used in equipment in which semiconductor parts are made (paragraph 003).

Watanabe'230 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the

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production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art to coat the molded object taught in Watanabe '230 with the anti-static composition taught in Holley in order to prevent damage to semiconductor electronics that could come in contact with said object.

6. Claims 2, 19(2), 20(2), and 21(2) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "base layer") and a surface layer (herein relied upon to read on the claimed "intermediate layer") on at least one side thereof (paragraph 0038). The substratum comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (paragraph 0038), wherein the vinyl chloride has a degree of chlorination between 58-73%(paragraph 0040). The surface layer comprises 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree lower than the chlorination degree of the substratum to increase the laminate's chemical resistance (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) which is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'945 in order to provide the substrate with antistatic properties.

With to the chlorination degree of the surface layers, Watanabe '945 teaches that the surface layer should have a lower degree of chlorination than the substratum so that its chemical resistance is improved (paragraph 0040), but does not teach the claimed degree of chlorination. However, Watanabe'945 teaches that the chlorination degree of a polymer will affect is fire resistance, thermal stability, and chemical resistance (paragraphs 0024-0025). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the surface layer's chemical resistance, thermal stability, and fire resistance.

With respect to claim 19 (2), Yoshizumi teaches that the binder of the anti-static layer may comprise vinyl chloride, but does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'360 teaches that the chlorination degree of a polymer will affect is fire resistance, thermal stability, and moldability (paragraph 0015). Therefore, it would have been obvious to one of ordinary skill in the art to control

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the chlorination degree of the vinyl chloride binder in order to control the laminate's moldability, thermal stability, and fire resistance.

7. Claims 2 and 21(2) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "base layer") and a surface layer (herein relied upon to read on the claimed "intermediate layer") on at least one side thereof (paragraph 0038). The substratum comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (paragraph 0038), wherein the vinyl chloride has a degree of chlorination between 58-73%(paragraph 0040). The surface layer comprises 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree lower than the chlorination degree of the substratum to increase the laminate's chemical resistance (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the

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production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art to coat the molded object taught in Watanabe '945 with the anti-static composition taught in Holley in order to prevent damage to semiconductor electronics that could come in contact with said object.

With to the chlorination degree of the surface layers, Watanabe '945 teaches that the surface layer should have a lower degree of chlorination than the substratum so that its chemical resistance is improved (paragraph 0040), but does not teach the claimed degree of chlorination. However, Watanabe'945 teaches that the chlorination degree of a polymer will affect is fire resistance, thermal stability, and chemical resistance (paragraphs 0024-0025). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the surface layer's chemical resistance, thermal stability, and fire resistance.

8. Claims 4, 19(4), 20(4), and 21(4) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "intermediate layer") and a surface layer (herein relied upon to read on the claimed "base layer") on at least one side thereof (paragraph 0038). The substratum comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound

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(paragraph 0038), wherein the vinyl chloride has a degree of chlorination between 58-73%(paragraph 0040). The surface layer comprises 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree of 50-58% in order to improve the laminate's chemical resistance (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) which is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'945 in order to provide the substrate with antistatic properties.

With respect to claim 19 (4), Yoshizumi teaches that the binder of the anti-static layer may comprise vinyl chloride, but does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'360 teaches that the chlorination degree of a polymer will affect is fire resistance, thermal stability, and moldability (paragraph 0015). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the laminate's moldability, thermal stability, and fire resistance.

9. Claims 4 and 21(4) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "intermediate layer") and a surface layer (herein relied upon to read on the claimed "base layer") on at least one side thereof (paragraph 0038). The substratum comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (paragraph 0038), wherein the vinyl chloride has a degree of chlorination between 58-73%(paragraph 0040). The surface layer comprises 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree of 50-58% to increase the laminate's chemical resistance (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have

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been obvious to one of ordinary skill in the art to coat the molded object taught in Watanabe '945 with the anti-static composition taught in Holley in order to prevent damage to semiconductor electronics that could come in contact with said object.

***Response to Arguments***

Applicant's arguments filed August 18, 2003 have been fully considered but they are moot in view of the new grounds of rejection. In hope of expediting the prosecution of the current application, the examiner would like to take this opportunity to respond to some of the questions that might be relevant to the current rejections.

Applicant has requested a full translation of the Japanese reference and a Japanese copy thereof. Those documents are enclosed herein.

Applicant notes that the Examiner inadvertently referred to Yoshizumi as Holley in Paragraph 1 of the Office Action mailed June 16, 2003. The examiner notes the error, and apologizes for any confusion it may have caused.

Applicant argues that Watanabe '230 does not teach an intermediate layer having a chlorination degree of from 58-73%. The examiner respectfully disagrees for the reasons stated in Paragraphs 4 and 5 above. The examiner notes that the base layer, not the surface layer, of Watanabe '230 is utilized to read on the claimed "intermediate layer."

Applicant argues that Watanabe'230 does not teach the claimed thickness of the intermediate film. The examiner notes that the reference has not been applied to any claims that recite "a thickness of less than 200um."

With respect to Watanabe '945, Applicant argues that the claimed chlorination of the intermediate layer is not taught. The examiner agrees that the chlorination degree is not explicitly taught, and has taken the position that it would have been obvious to one of ordinary skill in the art to vary the chlorination degree to control the chemical resistance and fire retardance of the laminate. Applicant argues that the reference teaches that such chlorination degrees are unsuitable (paragraph 0041). The examiner respectfully disagrees. Watanabe '945 teaches that other chlorination degrees may be preferred, but makes no suggestion that other chlorination degrees are "unsuitable."

Applicant argues that Watanabe'945 does not teach the claimed thickness of the intermediate film. The examiner notes that the reference has not been applied to any claims that recite "a thickness of less than 200um."

Thus, Applicant's arguments are not persuasive.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

K-RK

krk

November 10, 2003

  
**D. S. NAKARANI**  
**PRIMARY EXAMINER**, Acting SPE